

***Transforming Solar System Exploration:  
The Applied Physics Laboratory and the  
Origins of the Discovery Program,  
1989-1993***

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**“Solar System Exploration @ 50”  
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# Origins of Discovery

- Sense of crisis in planetary exploration community 1989, no launches since 1978
- In contrast, Len Fisk's expansive view as Assoc. Admin. for Space Science and Applications
- Geoff Briggs' initiative spring 1989 for small planetary spacecraft and the SSED strategic planning workshop, UNH 6/89, and NEAR
- Tom Krimigis, APL, and the ACE talk

# Stamatis “Tom” Krimigis 1986



26.10.2012

Neufeld, Origins of Discovery

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# Page from Fax to Krimigis 6/28/89

## ACE Spacecraft Configuration



The ACE Spacecraft is based on AMPTE design heritage

Basic Octagonal Shape, with Corners Widened to Accomodate Experiment Fields of View

Most Experiments and S/C Electronics on Top Deck

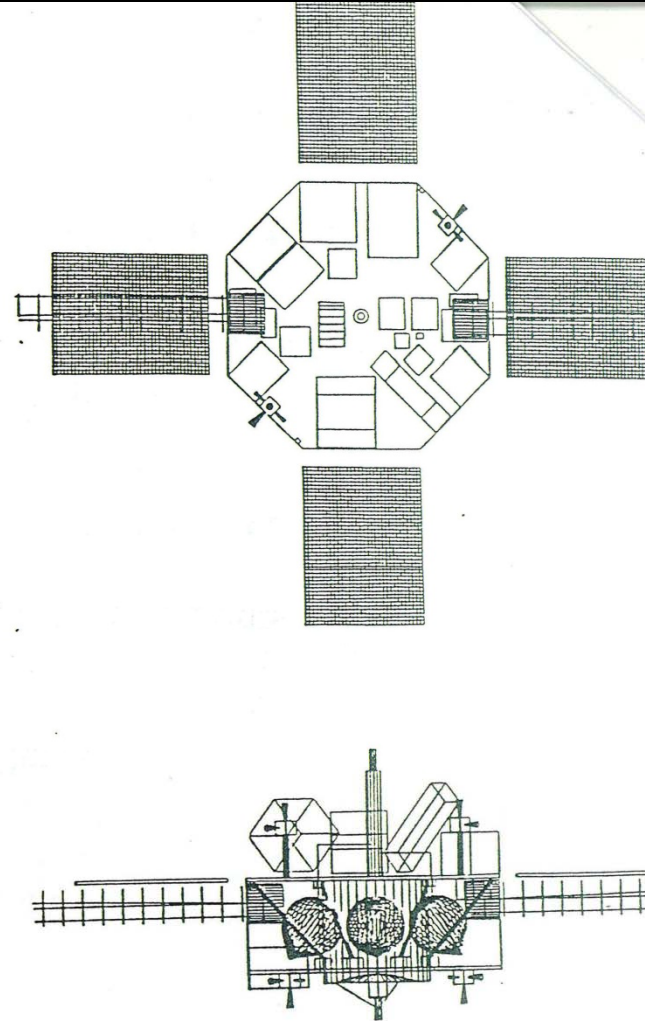
Four 32 x 50 inch Solar Panels

4.0 m Astromast Magnetometer and Balance Booms

Six Sphericonical Fuel Tanks on Lower Deck

60 cm Parabolic Antenna

Prudent Redundancy



# Discovery Limpers Along

- FY 90--formation of Discovery Project Science Working Group and naming of Bob Farquhar as program mgr. 9/89
- DPSWG held two meetings during FY, inconclusive—NEAR concept languished
- 1989/90 went by with little progress—unclear why: lack of urgency from the top?; distracting impact of Pres. Bush's SEI on space science program?

# Wesley Huntress at SSED

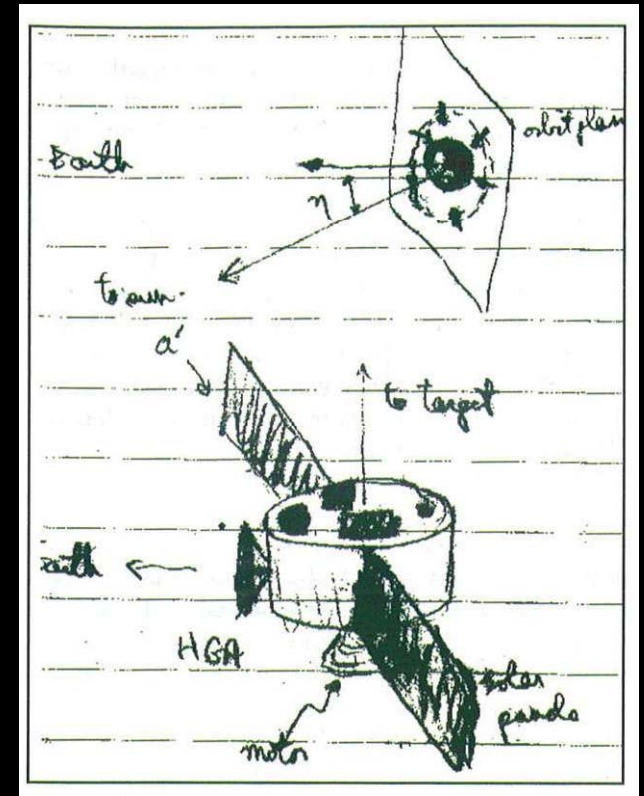


- Huntress became SSED Director 8/90—Discovery one of 3 objectives
- Revised DPSWG and created Jim Martin's tech. committee
- NEAR study contracts to JPL and APL—politics of JPL and planetary explor.



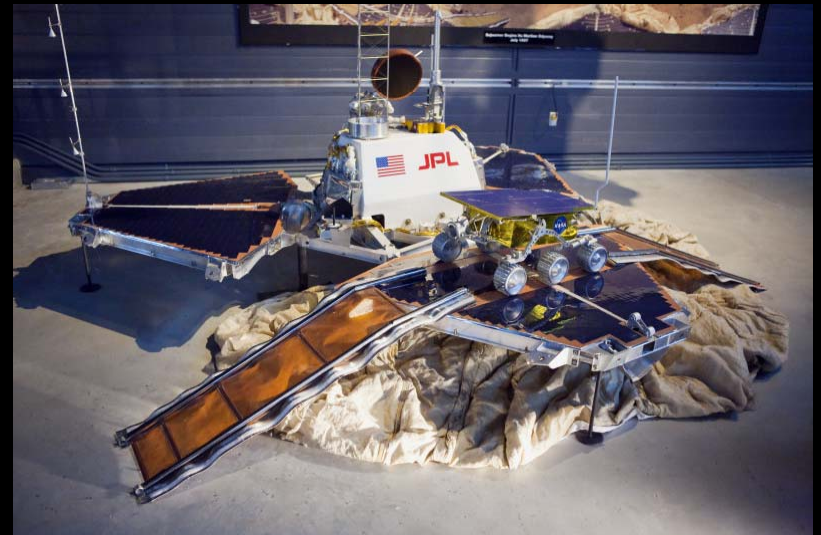
# NEAR, the Moon and Mars

- Showdown in Pasadena:  
JPL vs. APL 5/91 on NEAR
- JPL gets second chance but  
Huntress picks APL to send  
message, wants to find JPL  
a low-cost project
- Lunar Scout, Mike Griffin  
and Code X—OSSA loses  
Moon, wants to save Mars



# MESUR (Mars) Pathfinder

- Huntress/Fisk transferred Ames' MESUR study and Pathfinder concept to JPL
- Micro-rover added, put under Discovery banner 3/92, to solve OSSA's problems with JPL, strategic plan and Code X





# APL Strikes Back



- APL's NEAR bumped to second, 1998 launch instead of 1997
- Farquhar finds 1996 launch for Eros, late 1992
- Pathfinder still first, NEAR minimal funds in FY 94 budget, Krimigis launches campaign

# End Game

- Krimigis's connections to Sen. Barbara Mikulski's office and maneuvering over the FY 94 NASA budget, summer 1993
- Conf. Cttee. approves Discovery with both NEAR and Pathfinder –starts better funded and forestalls threat of one-mission program
- Krimigis and Huntress as 2 key actors
- Discovery's impact on US planetary and space science programs

